THE LEISURE HOUR.

BEHOLD IN THESE WHAT LEISURE HOURS DEMAND,
AMUSEMENT AND TRUE KNOWLEDGE HAND IN HAND.—*Cowper.*

PATTY'S CONSTITUTIONAL.

MISS PILKINGTON.

BY THE AUTHOR OF "DAFT DAVIE," "MATTHEW MORISON," ETC.

CHAPTER XV.

AT nine o'clock, which had chimed softly from a small Louis Quatorze clock on a bracket above the cabinet opposite the window, Mrs. Pilkington rose and deposited her work in a basket on the centre table. She had just accomplished this when the door opened and Pheme appeared, with grave formality expressed in her face and tall broad figure. She carried a large family Bible in her hands, and beneath one arm was a half-folded newspaper; she placed the Bible on the table before Mrs. Pilkington, who had seated herself there, and then removing the newspaper from under her arm, to Patty's great astonishment she opened it to its full extent, spread it deliberately over the seat of the chair nearest to the door, and sat down upon it. It was evidently a usual proceeding on Pheme's part, for her mistress paid no attention to it, and she

herself seemed quite unconscious of having done anything to excite the stranger's surprise. Her hands were folded demurely in her lap, and her eyes were fixed upon the carpet with an air of solemn attention and reverence.

Mrs. Pilkington in a slow distinct tone read aloud a chapter of Scripture, then, after carefully replacing the mark in the page, knelt down by her chair—Patty and Pheme following her example—and uttered a short extempore prayer which touched Patty greatly, as one petition of it referred to her as "the stranger within our gates." But when they rose from the attitude of prayer the scene suddenly changed, and so did Patty's solemn emotions. Pheme had evidently been troubled with a certain restlessness while on her knees, which the rustling of the paper on which her arms rested had betrayed to her quick-eared mistress.

"Pheme," said Mrs. Pilkington, turning sharply and suddenly upon her like a cat pouncing upon a mouse, "you have had that Edinburgh paper to my knowledge for the last two days in the kitchen, and I think you might have read all the births, deaths, marriages, and shocking accidents there instead of up here when you are on your knees professing to worship your Creator."

"Oh, dear!" thought Patty.

"Eh! mem," said Pheme in a deeply injured tone, "to think you could charge me with such a thing, and before the stranger leddy too."

"What did you mean then by making such a noise, woman?" demanded her mistress, not deigning to notice the appeal regarding Patty's presence.

"Weel, mem," replied Pheme, looking unusually upright and stiff as she stalked round the table to remove the Bible, "if you were as little accustomed to sit still through the day as me, maybe your legs and arms might take a sleeping fit too at times. Will the young leddy take some parritch to her supper like you, or what will I bring up to her?" with dignity.

"Patty," said her aunt, "did you ever eat oatmeal porridge?"

"No, aunt," said Patty; and Mrs. Baigent's remarks on the subject of Scottish diet recurred uncomfortably to her mind.

"No wonder you look like a washed-out clout, then, brought up as you must have been on bread sops and boiled milk," said her downright aunt. "Do you think Pheme's bones and muscles were ever made out of anything less strengthening than curny oatmeal porridge and sweet milk twice a day? Bring up a few for Miss Patty, Pheme—it's maybe not too late yet to invigorate her constitution. And don't you get upon your high horse about that paper."

Pheme only responded by a half-suppressed snort, and left the room.

"Does your servant sit on a newspaper for fear of soiling the chair cover, aunt?" Patty ventured to ask to satisfy her curiosity.

"That's it, my dear, and Pheme would do the same if the Moderator of the General Assembly, whom she thinks a far greater man than the Archbishop of Canterbury, were making worship. But what's the use of contradicting her? I just let her be. She's an honest soul, and would go through fire and water to serve me. But she's careful to a wearisome degree, and I sometimes think her savings are like burning a halfpenny candle seeking for a farthing—nothing comes of them. I used to keep two servants in this house, but no English one would stand Pheme's watchings and economics, and it ended with her getting all the work to do herself. She's strong enough for it, and if I would let her, would do the washing too; and I believe it goes to her very heart to pay the washerwoman's bill on Monday mornings. Ay, ay, Pheme deserves to be humoured a bit. She was the forester's daughter at Cloich, and her mother kept the east lodge there when I was a young woman and the mistress in my father's house. Eh, dear! that's an old story now, Patty. I put her into the kitchen under the cook when she was fifteen, to be trained by her, and she followed me when I married, and afterwards she followed me here, and here she stays though she hates all English ways like poison, and might go back to Cloich if she liked. She has a married brother and sister there still in comfortable circumstances for working folks, and she herself has a good sum in the savings bank—but no, Pheme won't leave me, and I couldn't get on now without her, though we have our tiffs occasionally. Poor Pheme!"

And as she uttered the few last sentences Mrs. Pilkington's voice and manner lost all the acerbity which had marked them the minute before, and became full of feeling and gentleness, as if speaking of her faithful servant had roused a host of tender old recollections. At last Pheme returned, bearing a covered tray, on which were arranged two small soup-plates of smoking porridge, each flanked by a tumbler of sweet milk. This she placed upon the table in aggrieved silence; she then brought in from the lobby two chamber-candlesticks, after which she disappeared for the night, "carrying still the black dog on her back," as the old lady remarked to her niece, with a significant nod; "but servants such as Pheme are like mettled horses, my dear," she said, "which prefer a rider who can keep a firm seat and rein. You'll see Pheme will be all right to-morrow morning."

"Come to your porridge, Patty," she now exclaimed, and Patty, reluctantly seating herself at the table, had one of the platefuls, with its accompaniment of milk, placed before her. She was not hungry. Her former meal had been so much more substantial than she was accustomed to, that she felt in need of nothing more that night, and the smoking mess she was expected to eat looked very coarse and uninviting to her unfamiliar eyes. She tasted it cautiously, and that sense was in agreement with the other.

"Do you like the porridge, Patty?" asked her aunt, who had got half through her portion by the time Patty had accomplished her first spoonful, which she had to lubricate with abundance of milk before she could swallow it.

"No, aunt," said Patty, truthfully, but afraid of her confession.

"Then you haven't the taste of your mouth, child," said the old Scotchwoman, in contemptuous accents. "Your uncle supped his as if he had been born to it, and the very Queen, like the sensible woman she is, gives her children porridge, and I have no doubt sups them herself. Haven't you had toothache often? Tell me that! To be sure you have. That's because your teeth were made from wheat-flour, girl, instead of from oatmeal. Never consulted a dentist in my life, Patty, and I'm sixty-five, and never lost a tooth but one, and that was knocked out of my head when I was thrown by my pony half-a-century ago—fortu-

nately it wasn't a front one. My teeth will last my time,—hate false teeth as I hate lying. And why will they last? Just because I breakfasted on porridge when I was a child. If I had taken them night and morning like Pheme I might have grown into as big a woman, though we are not a large race in general, we Mackenzies. My father's cousin, Colin, was the only one of us that was upwards of six feet high, but his height came from the mother's side, one of the long Miss Melvilles, of Kinspindie. They made a soldier of him because of it, and because he had no brains for anything but fighting; could read and write, I believe. After all, good gear's mostly made up in little bundles. Don't play with your spoon that way, pretending to be eating when you aren't! You'll find a plate of biscuits in the cabinet. But you must learn to sup porridge, Patty; it's a part of your physical education that's been shamefully neglected."

Patty listened meekly to the foregoing harangue, determined to learn to like porridge without delay to please her aunt, and with such an exalted example as her Majesty's to encourage her. She laid down her spoon as commanded, for Mrs. Pilkington's tones had generally an authoritative ring in them, but declined the biscuit on the plea of want of appetite—a plea her aunt accepted as the true reason for her rejection of the porridge.

"That accounts for it entirely," she said; "but," shaking her head gravely, "Pheme will certainly set you down as a waster, which is one of the worst of characters in her estimation. And now we'll light the bedroom candles, my dear, and put out the others. Sound sleep and pleasant dreams to you, Patty. I'm just through the wall from you, Patty, so if you're sick and restless after your journey—your uncle never agreed with travelling, and, maybe, you take after him in that; refusing your supper looks like it—just knock on the partition, and I'll come and give you some Gregory's mixture to correct the crudities. You're not one of those small dose folk, I hope—all humbug and cold water—that are making gulls of people in these days. There's actually a professor in Edinburgh College that's one of them. I wonder what the world's coming to?" And kissing Patty kindly, she dismissed her to her room.

Patty sat down and began to think over the events of the day when she had shut her door. It seemed the strangest day altogether, and the people she had got amongst—maid as well as mistress—the most original people she had met with in her life. She felt confused and bewildered by the sudden change in her silent, lonely life, and with the strange contrarieties in her aunt. How could one so severe and imperious at one time be so feeling and sympathetic at another.

"Ah! papa has seen only her worst side," thought Patty, "and that is why he spoke so of her. But I wish I could understand her talk better; sometimes it is quite plain, just like other people, and then she says something that is quite unintelligible to me, especially when she talks of that place C—Cloi. No, I need not attempt to pronounce it."

Then her thoughts flew back to the afternoon of the previous day, and in imagination she was again standing looking down on the grave with its withered turf, and reading her father's name on the stone at its head. She felt as if she had been guilty of forgetting him in the distraction of mind which new scenes and persons had occasioned, and that even her enjoyment of her aunt's comfortable rooms and repast had something selfish and injurious to his memory in it. How could she enjoy anything while he was lying in his cold unvisited grave in distant London. "Poor papa!" murmured conscience-stricken Patty. "Poor papa!" she again repeated, with a quivering lip, and then she had a good cry.

CHAPTER XVI.

PATTY was in the dining-room before her aunt the following morning; she had always been an early riser. She found Pheme busy arranging the breakfast-table. The old servant saluted her graciously, notwithstanding her mistress's prophecy, and entered into conversation with her, though in a perfectly respectful manner, while making her preparations for the meal. She began with informing Patty of her satisfaction in having her there. "The mistress is getting up in years," she said, sensibly; "and though she has a spirit that few folk have, she's the better of having some young body in the house to keep her company; for, of course, I am but a servant, though I've been sae lang with her, and I ken my place. The master's death was a sair blow to her, and she's never held up her head—that is to say, like what she used to do—since that time. Eh! Miss Patty, but she was a spirity leddy in her young days. If you had but seen her that time when she was thrown by her pony in front of my father's house, at the east lodge of Cloich! I was just a bit lassie then, but I remember it as if it was yesterday. Before my mother could run to lift her, thinking she might be dead, or at least sair hurt, up she starts from the grass-plot where she had fallen, and, with her mouth running o' blood, for the fall had knocked out a tooth and cut her lip besides—you may see the scar o't still—seizes the pony by the rein—for it couldna get out because the gate was shut, the unchancy brute!—and up she springs on its back again as if she didna ken what fear was; and, with a nod to my mother, who was looking as white as a sheet—for the young leddy was Mackenzie o' Cloich's only daughter, you see, and kind to everybody about her—away she canters home again, just as if nothing had happened. I've never forgotten that sight, and how my mother sat and grat afterwards with the fright she had got till she forgot to put on the tatties—that's what you English folk ca' potatoes—for our dinner in time, so that there was a bone in the heart of them that day, as my father said. Eh! if ony ill had come to her, it would have been lang or we would have thought what our meat was like, or cared to eat it at all; and no' us merely, but everybody on her father's land. And here she's now, living in a foreign place, far away from bonnie Cloich, with me for the only body about her that can speak to her o' her old hame. And she'll never gang back to it—never, because *he's* lying here," and Pheme paused as she was about to leave the room to point solemnly to the portrait of her late master. "Weel, weel, we maun just submit," she added, with a heavy sigh.

"Miss Patty," said Pheme, renewing the thread of her discourse on re-entering the room with the bubbling tea-urn a few minutes afterwards, "if you wouldna think it too great a liberty—and you dinna look like a leddy that would be ready to take offence at what one like me might say in a well-meaning way—I would just take it upon me to warn you no'

to mind all that the mistress may say to you; her bark's waur than her bite, as you'll soon find out for yourself, though as yet you canna be expected to understand it. As for me, I dinna care what she says to me—unless I'm ta'en by surprise, as, no doubt I was last night—she gives everybody a rough lick of her tongue in turn; she's aye been accustomed to speak her mind, you see, as Mackenzie o' Cloich's daughter has a gude right to do, and if onybody takes offence at it here, it's just that the senseless English folk—begging your pardon, mem—dinna ken what blood's in her veins, or anything about the grandeur of the auld Mackenzies. But she's taken an unco' lift o' you, Miss Patty, and I would wish it would continue; though," continued the faithful servant, with a passing touch of jealousy, "it canna be expected that you can ever enter into her feelings or understand her ways like me, that was born at her father's gate, and have kent her a' my days—you'll excuse me, Miss Patty, for saying it!"

"It needs no excuse, Pheme," said Patty, warmly; "it would be strange, indeed, if your mistress did not value you before all others. And she does, for she said as much to me last night."

"Did she, mem! well, that's pleasant to hear; and I'll not forget it when she gets camstrairy with me, for sometimes the best-natured folk will feel their temper tried. But, as I was saying, mem—"

The remark she was about to make was unexpectedly prevented, and the forbearance she had just promised put to the proof sooner than she had anticipated by her mistress making her appearance in the doorway. "Pheme," she sharply demanded, "do you think you are in the middle of Dalwhinzie moor, with not a living creature but the crows and the whaups to hear you, that you speak so loud?"

"'Deed, mem," responded the handmaiden, "it would be a stronger fancy than I have that would take this bit English town, where you see nothing from morning to night but butchers' lads with their trays and cuddie carriages creeping up the hill, for the bonnie moor, with its waving heather, brattling burnies, and the muckle hills round about looking quietly down as if they were watching it."

"You're a true Highlander, Pheme," said her mistress, approvingly. "Good morning to you, Patty; hope you slept well, my dear. Do you like to make tea, Patty?"

"I should like very much, aunt, to do it for you," said Patty, glad to be employed in any way.

"Well, it's fair that old people should sit, and the young work," said Mrs. Pilkington; "but you mustn't take that place, Pheme; move the urn and the other things opposite the window; you know I must have my usual seat."

"Yes, mem, I know," acquiesced Pheme, making the required alteration, so that Mrs. Pilkington retained her place opposite her husband's portrait, her only morning's companion, except on rare occasions, since his death.

"Aunt, what is a cuddie carriage?" asked Patty after Pheme had left the room.

"Oh!" said Mrs. Pilkington with a laugh, "that's Pheme's name for the donkey-chairs. We have none in Scotland, and the animal is seldom used there except to draw some bowlman's cart about the country, with dishes for poor folk, or a load of firewood for the High Street and Cowgate wives in the old town of Edinburgh. They call asses 'cuddies' in Scotland. Pheme has more respect for a shelty, which is a small rough pony, but very strong and active, which children ride on in the Highlands. I used to canter mine about the country side when I was only six years old. I told you that Pheme doesn't like anything English, I believe she thinks the Union a great mistake. Well, Pheme, what do you want, and who's that at the street door?" as the servant reentered the room.

"It's just Miss Nancy Brookes's Maria, mem—as if plain Mary wasna good enough for the like of her. Set up thae English servant lasses with their Jowlias and Marias and Emilys!—come to see how you are in health in this morning."

"How I am in health? What does the woman mean? What should ail me?" demanded the old lady, indignantly.

"Oh, it's because Miss Fanny has taken another of her nervish turns, mem, and Miss Nancy thinks a visit from you, if you are able to go out, might do her good, as it has before."

"Nervous turns! Nervous rubbish! A fine name truly for ill-temper," exclaimed Mrs. Pilkington. "Tell the girl to say to her mistress that I've other tow on my rock to spin to-day. But no—Pheme, stop! poor Miss Nancy, she's to be pitied with that sister of hers, and all the more that she believes sincerely in all her crotchets. Say I'll look in on my way home from my drive, if possible. They're the daughters of our late rector, Patty, and among the most respectable people here. But they've had a poor allowance of brains meted out to them, and it's a mercy they do not need to earn their own living. I believe Miss Nancy might have made a fair cook, however, and a good spell of housemaid's work might have set up Miss Fanny for life and cured her nerves. Miss Nancy's fat and good-natured, and Miss Fanny's lean and ill-natured. That's all the difference between them—but it's a great difference to their friends. Miss Nancy pities her sister with all her simple honest heart and waits on her like her slave; but it's my belief if Miss Fanny would take more exercise in the open air instead of lying on a sofa dosing herself with sal-volatile and dabbing her face with eau-de-Cologne, she would be as well as her neighbours. It's odd the influence I have over her, for I can get her to do what no one else can, there's no doubt. I'll take you in to see them, Patty. They're well-meaning, charitable ladies, with all their folly; and what's the use of taking a forehammer to break an egg; and it would just be as reasonable to argue rationally with them. I must manage to frighten Miss Fanny a bit about her sister, for she's selfish, and thinks nobody in the house has any right to be ill but herself—I think I know how to do it. And now, Patty," said the old lady, suddenly changing the subject, "did you really mean what you said in your letter about liking to be employed?"

"I really did, aunt," said Patty, heartily.

"Well, I think you did, and that you're an honest soul. If you are not, yours is the first face that I have been mistaken in reading. Well, Patty, if you've a fancy for doing a good work, you can turn your gifts of cutting out and sewing to useful account here. There's a couple of bairns that Mr. Darling, our curate, wants to get into his Sunday-school, and they can't go for want of decent clothes. The father's my donkey-chair-man, and has earned little during the winter, and the mother's a do-less body, and puts his earnings into a bag with holes, you understand? I must get frocks for these two

girls, and they must be ready, if possible, for them to go to school in this first Sunday. They are bairns of six and eight. This is Wednesday—do you think you could manage it with my help if we got the cloth to-day?"

"I can manage it quite well without help, aunt," said Patty, "and you can go on with your stocking."

"Well, poor old Tibbets is sore in need of warm stockings for his rheumatism," said Mrs. Pilkington, well pleased. "Then, Patty, when my donkey-chair comes at eleven, you can take your constitutional by the side of it, and we'll go down town and buy the calico and everything you need at Simpkins's, and we'll call on the Misses Brookes on our way back. They'll be glad to see you, Patty, for they're fond of talk and seeing new people, and nobody knows I expected you."

At eleven Mrs. Pilkington was in her chair, Patty walking by the side of it, winding down the hill to the lower part of the town, where the shops were. As they left the aristocratic quarter behind, the streets assumed a decidedly livelier aspect. There were more people moving about; and when they reached the business part of Hilcum-Seabeach there was something like life and activity to be met with. As Mrs. Pilkington alighted at the door of Mr. Simpkins, linendraper and haberdasher, in the High Street, she was met by the obsequious proprietor himself, who marshalled her into his emporium with such tokens of respect as showed to Patty that he must consider her aunt a favourite and profitable customer. She asked to be shown some calicoes fit for children's frocks, sure to wash well, and she ordered Patty to select one and get all necessary furnishings. Patty did as she was desired, and Mrs. Pilkington then asked Mr. Simpkins if he could send the parcel without delay.

"I could arrange it in the chair, aunt, so as not to incommode you in the least," said Patty, "and then I should be able to begin whenever we get home."

"I may not take the chair all the way back, Patty, or I would not give Mr. Simpkins the trouble," said her aunt.

Mr. Simpkins protested it was no trouble, and engaged that the parcel should reach the house as soon as themselves. And this being settled, they left.

"Shearer," said Mrs. Pilkington, after she was again shut up in her chair; "you know the Miss Brookes's house in the upper road?"

"Surely, ma'am," touching his napless hat.

"Then drive me there, and wait at the door till I come out; I'll maybe get you another job, and will walk home if I do. And, Shearer, mind that your two girls are at my house by ten to-morrow morning to be measured for their frocks. I hate unpunctuality, so don't forget."

"I won't, ma'am, and thank you kindly."

And away they went, winding first along the level road on the seashore, and then re-ascending the hill till they reached its summit. In a few minutes they turned into a sloping walk, whose gate was standing open, and finally halted at the clematis-covered porch of the Misses Brookes's house, a pretty, moderate-sized villa, hedged in with clumps of laurustinus and rhododendrons, that sheltered variously well-kept flower-beds both from the cold of winter and the glare of the noonday sun in summer.

They were shown through a small tile-laid hall into the drawing-room, which was on the ground floor. Miss Fanny was lying on one of the couches—a great screen protecting her from the air of the door, though it was an unusually mild April day—covered over with a red silk duvet, and evidently in full invalid state, for her eyes were half-closed, and every feature made to express languor and suffering, while bottles of scent and a wine-glass containing a phial of medicine were arranged conspicuously on a little table beside her. Miss Nancy, a short, fat, round-faced woman, was listening with a troubled, anxious look to some querulous, fretful complaint of her sister's as the visitors entered the room. She was seated on a low chair near the couch, evidently waiting to render any assistance that might be required of her, for she had neither work nor book in her hands. "Here's Mrs. Pilkington!" she exclaimed, joyfully jumping up as she caught sight of her foremost visitor. "You'll be sure to get better now, Fanny."

"I'm very ill, and nobody can make me better," said the invalid, peevishly; "you make a deal too much noise, Nancy."

"She's been very bad all this morning, poor thing," said Miss Nancy, compassionately, undisturbed by her sister's ill-nature, "and I haven't known what to do for her."

"I'm sorry to hear it," said Mrs. Pilkington, approaching the invalid, who had now caught sight of the old lady's companion, and had opened her eyes rather wider to examine her; "this is my niece, Miss Pilkington, ladies; I have brought her here to introduce her to you without ceremony."

"Very kind indeed, and very glad to see Miss Pilkington," said Miss Nancy, cheerfully; "would have called upon her if I had known, though now Fanny is too ill; hope we shall see you often, Miss Pilkington, when Fanny is better. Poor Fanny! it's just another of her nervous turns, Mrs. Pilkington. I have been miserable about her all the morning and" (lowering her voice to a whisper) "so I sent for you. That's right, Mrs. Pilkington, take a seat beside her—you may cheer her up."

"I'll tell you what I think's the matter with you, Miss Fanny," said Mrs. Pilkington, in so solemn a manner as somewhat to alarm the invalid, who evidently feared that her visitor was about to pronounce her afflicted with some deadly disease, and she partly raised herself on the couch under the apprehension, "it's that you don't take sufficient fresh air and exercise; you are in need of oxygen, ma'am."

"Oxygen! what's that?" exclaimed Miss Fanny in a tremulous tone, and supposing it some new remedy; "I never heard of it before; is it to be got in Cole's?"

"It's to be got in the open air—and the open air's the thing you need, and not doctor's visits and drugs and smelling-bottles, Miss Fanny. If you won't do without drugs take to the small dose system, it's the very thing for such people as you," said the uncompromising old lady. "Go and smell the fresh grass and the budding hedges and trees, or go down to the beach and get a whiff of the sea air, that's the thing to cure your nerves"

"Oh, I haven't strength for it, Mrs. Pilkington," murmured Miss Fanny in a disappointed tone, while she sank helplessly back again upon her cushions. "Nancy can go out if she wants—I'm sure I don't want to keep her—but as for me, the thing's impossible."

"Miss Nancy will not be persuaded to leave you; you know that very well, Miss Fanny; and," sinking her voice so as only to be heard by the invalid, "I warn you as a friend that your sister will have a fit of apoplexy one of these days unless she has regular exercise, and then what will you do for a nurse, Miss Fanny?"

"You don't say so, Mrs. Pilkington; I can't believe it," said the startled lady, glancing doubtfully, but anxiously, at her unconscious sister, who was chatting to Patty; "and I never heard of apoplexy being in our family. There was my uncle Clifford, to be sure, but I rather think it was paralysis and not apoplexy that he died of, Mrs. Pilkington."

"Apoplexy is the twin brother of paralysis, Miss Fanny, and the disease must begin with some one," said her visitor, significantly; "she's very fat and short-necked, and she's getting fatter every week—you must see that yourself. She'll be falling down on the carpet and giving you a fright if you don't take my advice; I've known of such cases, dear. And it would be very unselfish in you, as your sister won't stir from beside you, to force yourself to go out every fine day, that she may have at least an hour's walk. It will be a certain preventive."

"But do you really think I'm capable of the exertion, Mrs. Pilkington; I'm such a poor shattered creature, so unlike Nancy there? Oh, but you think she is in a critical state. Dear, dear! what shall I do? I am afraid I can't stand the shaking of a donkey-chair; and yet, if Nancy is in a dangerous way—for what could I do without her?"

"Of course you would be very helpless, and you'll stand the drive very well, Miss Fanny. There's my chair at the door, I can easily walk home the little bit between our houses. It will be an act of charity to poor Shearer, besides, and be killing two birds with one stone. Shearer is carefulness itself. Miss Nancy," turning to that comfortable lady and interrupting the talk between her and Patty, "go and put on your walking things, and bring your sister's. I have recommended her to take a drive in a donkey-chair, and mine 's at the door, and she's welcome to it—you'll have time for an hour's drive before dinner."

"Yes, Nancy," said the invalid, disentangling herself from her coverings and slipping her feet down to the ground, "Mrs. Pilkington has convinced me—I am thankful we have such a friend as you, Mrs. Pilkington—that I should go out, and of course you will go with me. You can tell Pratt to bring me my things, and cook can fill a jar with hot water for my feet in the chair. I'll bring Nancy one of these days to call on you, Mrs. Pilkington," in a low voice to that lady, who was bidding her good-bye, "that you may judge if she is improved—you Scotch are so sharp and clever. Good-bye, Miss Pilkington."

PRACTICAL SOCIAL SCIENCE.

BY THE REV. HARRY JONES, M.A.

VIII.—AIR AND EXERCISE.

AIR is that one necessity of human life which cannot be withdrawn for even a few minutes without death. The fabric of our bodies may be deprived of solid food for a considerable time, and yet not be dissolved. It takes a long while to starve a man to death, especially if he be supplied with water. He will continue to live for many hours, even if this be withheld. Of course if we take away his meat and drink he will presently die, though his dissolution will be comparatively slow. But the total loss of air is speedy loss of life. If we stop a man from breathing, we stop him from living at once. And as life depends upon the having or not having air, so does health depend upon the sort of air that we have. Since we are incessantly inhaling it, we likewise necessarily take in what it carries—dust, motes, imperceptible germs. And we hardly realise what seeds of mischief, as well as mere lifeless matter, we may thus deposit within us. The purest air may be the vehicle of impurity. For this reason, however well ventilated the bedroom of a person suffering from contagious disease may be, it is well not to sit in a draught which blows upon us from the bed. If we do, we may swallow and sow the seeds of the disorder in our own bodies. Thus, moreover, no one who anywise appreciates practical social science will idly hold his mouth and nose over drains, or over diggings in soil which may have long before been charged with impurity and decay. It is believed, *e.g.*, that divers visitors at Rome have caught the Roman fever from air out of interesting but sometimes deadly excavations. The settlers on the prairie in America, too, frequently suffer from malarious fever caused by breaking up ground which is a mass of old decay, and though potentially rich in human food is sorely mischievous when first uncovered, to man's life. In thinking then of the use of air that we cannot help breathing, we may well first recollect that even the best may be the vehicle of evil.

Again, we want plenty of air. Even when healthy persons are shut up in an unventilated room they suffer for it. They may inhale no seeds of disease, but they soon begin to breathe that air which has already done its duty in somebody else's lungs, and cannot as yet discharge it properly again. Gas, too, takes the life out of air rapidly; so that one man, long sitting or working in a closed parlour or study thus lit, will have his powers impaired. The oxygen which should have purified his blood is burnt up by the gas flame, and thus his heart and body are put upon short commons. The apartment may seem sufficiently roomy, but the *goodness* of the air in it is consumed. Of course, when several sit in one lit by gaslight the mischief is proportionately intensified. Always manage to have a fresh supply of outer air in every inhabited room. The appetite of the lungs is enormous and exacting. If you watch water in which a diver is at work you will be astonished at the amount that he consumes. As he exhales each breath of air, it bubbles, or rather rushes up to the surface in such abundance that you might think there was a whale beneath it instead of a man. Our lungs want plenty of air as well as that which is clean, unbreathed, and unburnt. We cannot measure the subtle mischief caused by an insufficient supply, or done by that which is foul and exhausted. Pale faces and aching heads are among the plainest symptoms of the harm wrought. Stunted growth, loss of appetite, and generally lowered powers of life, come from closed windows, stuffed-up chimneys, and tightly-fitting doors. A draught is unpleasant, certainly, and sometimes dangerous, but it is only the silent voices of the air pleading to come in and invigorate us. We must not be content with merely excluding it, but rather so arrange that the want it

indicates may be supplied without peril or annoyance. We do not deny a generous friend because he knocks importunately at the gate, and when the breath of life pushes himself rudely in we should do our best to give him a quiet welcome, and not slam the door in his face. He is not particular, however, or likely to take offence. He is willing enough to slip into our company through a ventilator, and when he comes he always brings his gift of health. It is mainly because they close their windows tightly at night, and too many sleep in one room, that we see sallow faces among peasants who live in the country, and whose houses are surrounded by abundance of fresh air. The artificial stuffiness of the night undoes much of the purity of the outer day. I have noticed this especially in Switzerland, where the windows of the châlets are very small, and their sleeping-rooms often offensively sour from want of ventilation. It is, however, common enough in England. An artisan in a crowded city may have a more healthy bed-chamber than a country cottager who breathes the tainted air of a close sleeping-room, if he will only leave his window partly open. The air of towns is often unjustly blamed. If people would only breathe it, and not create a foul atmosphere of their own within doors, they might soon find that they had themselves chiefly to thank for the closeness of which they complain. The ventilation of bedrooms is a matter which especially cries for the use of Practical Social Science. People seem to forget that they breathe while they slumber, and that the life of the enclosed air they then inhale is soon exhausted. The riser is struck by the freshness of the *morning* air when he opens his window or issues from his door, whereas, in fact, his sense of it comes from having shut out the *outer* air altogether from his house, and therefore from his lungs, for several hours.

Change of air is often one of the most subtle and almost mysterious restorers or promoters of health. When, indeed, during holidays, the head of a household takes his family into the country or to the seaside from the town, the roses that come into the little one's cheeks are created mainly because they are almost all day out of doors, and not poring over lessons in the schoolroom. But there is unquestionably some difference in the quality of the air, since it may be not only hot or cold, but moist or dry, and have other properties besides.

It is the extreme purity of the upper air in Switzerland that makes it eminently fitted to be the playground of Europe. The experiments conducted by Professor Tyndall in his researches concerning the theory of germs exhibit this. Those flasks alone which he opened in the breeze which had come over regions of snow and ice, and then sealed up, kept their contents perfectly untainted. Such as have experienced the freshness of that mountain atmosphere know how their lungs greet the pure food. The professor's flasks which were opened in an Alpine hay-loft, and soon showed signs of the life introduced into them by invisible germs, might suggest to us that even the perfume of the new-mown grass, which is sometimes taken to be one of the purest pleasures we can breathe, may not always be so excellent as it seems. It brings, indeed, to some its special Nemesis in the shape of hay fever; but anyhow, if we are not thus susceptible, we may take in, as we toss the swathe, enough to grow a crop of something in our insides. Wind over the mountain-top or across the sea is the wholesomest that we can find. But a romp in the hay-field brings other benefits besides such air as we then inhale.

And this leads me to say a word about exercise. It is well to remember that, properly, the whole of the body should be exercised, and not merely one set of limbs, like the legs. I am sure that many of our readers will agree with me in regretting the exaggerated rage for athletics which prevails in these days. But manifold forms of exercise are needed that each part of the frame may have its share of benefit thereby. The middle-aged man may think himself sufficiently refreshed by a walk or ride, but look how children wriggle, sprawl, and tumble themselves about. Nature is doing her duty then, and seeing to the use of every growing limb and portion of the fabric. Don't be so prim and pedantic as to thwart her purpose by everlastingly bidding the little things to "sit up." Put them through all the postures which "drill" involves, if you like, for this searches out and uses muscles which even their own wriggling might not reach, and it gives a good carriage, but at other times let them mostly loll and twist themselves about as they please. They are right; a kitten could hardly grow into the lithesome cat if it were hindered in its early capers, and a child cannot pass into healthy manhood or womanhood without liberty of limb in childhood.

With respect to catholicity of exercise when we are grown up, I think that undue contempt is sometimes thrown upon "calisthenics," as they are called, wherein the man flourishes about with clubs, dumb-bells, or what not. It is almost impossible, especially for those who live in towns, to get sufficiently varied exercise. But even a good five or ten minutes' spell at the dumb-bells every morning before dressing is a capital procedure. If you are what is called an active man, and yet have not tried it, try it once, and feel how your arms and shoulders and back ache after the business. This shows that a number of muscles which it were well to keep in good condition get stiff. In a few days the ten minutes' contortions will bring no sense of fatigue, and you will feel the good of the process all over your frame. The value of even the simplest gymnasium is incalculable. I had a youths' institute some time ago, to which a number of boys belonged who were more or less stirring about all day, but a ladder fixed along the ceiling of one of our rooms—they were low ones—soon showed how the power which even a healthy youth had was dulled by want of exercise. Not one could cling to the end stave and then shift to the next two or three at first. But in a few weeks a string of them would travel along the whole length of the ladder by their hands. It pulled their ribs out wonderfully, and helped their growth. They all felt the better for it, though they could not be said to be ailing before. That exercise which is to a great extent artificial rather than natural must by no means, therefore, be despised, especially by dwellers in towns who take little besides such as they get by walking soberly along the street, or being jolted on the top of an omnibus over those streets which are still paved in the old-fashioned way. That does something. I was lately sitting by the side of the driver of one, and on asking which of the various pavements he preferred, he replied at once, "Stones, for they give me almost the only exercise I have." His arms were tired enough, he admitted, but "his liver," he said, came badly off. It is astonishing how smart exer

cise dissipates the "humours" of the body. Without it we get hide-bound, like trees in a thick plantation, which never bend before the wind as they grow. It is obvious, however, that, like many other good things, exercise may be overdone. People who pass from a sedentary life to, say, a brisk walking tour, sometimes think they can lay in a good store of health by keeping on their legs as long as they can stand, but there is no good in being knocked up. We cannot measure the value of exercise to our frames by the amount we can get through with an effort. There is no true recreation in heavy bodily toil. A certain amount of grinding will put an edge to the tool, but too much will grind it all away. When we are cold we are content to warm ourselves at the fire, we do not wish to be burnt. So in holiday exercise, the passage from wholesome exertion to fatigue may not be always immediately perceptible, but it brings its evil result, and I have known people, especially young women, fall into bad health simply from having performed what they considered wonderful feats in a walking tour. The excitement keeps them up, after a fashion, for the time, but when they get home they find out the harm they have done to themselves. Nature has been upset, and avenges herself.

The true process of recreation has to be observed in reference to the use of air and exercise. Because ventilation is good, that is no reason for sitting in a draught. The north-east wind, which "crisps the lazy dyke, and hungers into madness every plunging pike," may harden some, but it kills many. Consumption and rheumatism, which slay and cripple hundreds of the delicate and insufficiently clad on our colder and especially eastern districts, tell us that the freshest air, however precious, is to be used with an eye to Practical Social Science. It is needed for our lungs, but when it comes in strength we must recollect that it can rob us of the heat we need, and will do so if we get hot and then stand about, or wear linen next the skin. It is, as I have said, the same with exercise, which fails to recreate when it is too continuous or severe. If a man is, say, a soldier, and committed to the fatigue of a campaign, he cannot help himself. He must respond to the call for an undue strain upon his powers of endurance, as well as meet the dangers of the battle-field, though it tells upon him after the war, when the excitement has passed.

If we are not subject to inevitable compulsion, we ought to have the sense to perceive when we are unduly tired, and the moral courage to admit that we want rest, even though others gaily profess themselves ready to go on. An exceptionally strong man, in the physical sense, may feel a foolish sort of pride in "knocking up" his companions; but if one of them has the pluck to say that he is overdone, he will be pretty sure to get the thanks of all the rest, and deserve them. It requires some courage to admit fear.

In many matters—but I am now thinking of the various forms of exercise—some harm, especially in these ardent days of athletics, would be escaped if young men whose frames are as yet not properly developed, could be induced to believe that it is possible to be over-tired. Air and exercise are invaluable, but we may have too much of even the best things. And the youth is no milksop who puts on a thick coat in an east wind, and declines to see the recreation of being walked off his legs because he happens to have a Hercules among his companions.

THE KAFFIR, OR BANTU TRIBES OF SOUTH AFRICA.

I.

THE Kaffir, or Bantu tribes, are by far the predominating race in South Africa. If we take the River Limpopo, the northern frontier of the Transvaal, as the boundary, they are probably as six to one to the Hottentots and Bushmen unitedly, and they stand in nearly the same ratio to the colonists. If we include, again, the Kaffir tribes farther north up to the Zambezi, they may be reckoned, perhaps, in round numbers, at three millions. But the same race stretches also widely east and west in Central Africa, and they have been reckoned as numbering some eighteen millions. According to other calculations, the whole of these Bantu tribes, allied in language, usages, and origin, may form fully one-fourth of the inhabitants of Africa.* If this estimate be correct, it would raise their numbers to forty or fifty millions. But I shall not attempt so wide a survey; my limit will be South Africa; only the fact deserves to be noted from its bearing on the future civilisation and Christianisation of Central Africa.

I can, in this brief paper, glance only at some leading facts connected with these tribes, such as their distribution, origin, tribal characteristics, history, and probable future. The present sad crisis in South Africa may well suggest that some careful study of the Kaffir tribes is due on the part of the British politician and the Christian philanthropist. It is, indeed, one of the greatest problems, we may say, that has ever arisen in our British colonial rule, how to put an end to these barbarous, sanguinary raids, so ruinous to life and property in South Africa, and how to educate and to elevate the Kaffir, so that he may be fitted to enjoy ultimately all the benefits of self-government. The Boers, indeed, cut the Gordian knot by enslaving or exterminating the aborigines; but this is a solution which England will not adopt, first, because it is opposed to that humane policy which has been nowhere more conspicuous than in our past relations with South Africa, and also because the Kaffir is not, like the Maori of New Zealand, or the American Indian, so readily to be extinguished. On the contrary, the black population, not only Kaffir, but Hottentot, is growing. In Natal there has been, indeed, an astonishing increase, far exceeding that of the European colonists, not only by natural growth, but by an immense black immigration into its territories. What are we to do with this growing population of semi-savage tribes? It is a question most hard to answer. Let me illustrate its difficulty. In the old Roman empire, which, in many features, had its analogies to our own, there was the Colonia and the Provincia, the former occupied by Roman citizens under Roman law, the

* Africa, Keith Johnston, p. 530.

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latter governed by native law under Roman rule. We have the same thing in the British empire—the Colonia, as in Canada, Australia, or New Zealand; the Provincia, again, in India. But South Africa is not as in India, where the native population is governed, if wisely and justly, yet absolutely, by a superior race; South Africa is, on the other hand, colonial in its institutions, while yet the vast majority of its population is very far below the Indian standard of culture and civilisation. And yet the very idea of a colony must rest on the assimilation in culture of its races, without which there cannot be self-government. It may be said this problem is being solved in the United States as regards its southern negro population, but with what advantages? First, an overwhelming American civilised population, and then a black people, Christian, and trained in civilised usages. In South Africa, on the other hand, we have to do with races degraded, barbarous, polygamists, with the power of Christianity as yet imperfectly developed. Mr. Trollope, in his recent work on South Africa, has very well seized this point and illustrated how arduous must be its solution.

We would now glance at some leading facts relating to the tribes. There is their origin. All their traditions point to the north-east—Egypt or the sources of the Nile—as the cradle of their race. It is thus, for instance, that the Bechuanas still bury their dead with their faces turned in this direction. Mr. Merensky, a German missionary, observes:—"The houses of the natives in Abyssinia are almost exactly the same as those of the Bechuanas or Basutos in South Africa. When we saw pictures of Magdala and other villages of the Abyssinians during the English campaign in that country, we had quite as correct pictures of the villages of our Basutos."* I may add that the same applies to many of the photographs Mr. Stanley gives of East Africa in the "Dark Continent." Mr. Merensky further observes: "Many of the usages of the Kaffir tribes point to Egypt or its influence. In the same way it has struck us that the brown people, which are found painted on the walls as in battle with the Egyptians, or as prisoners, bear throughout the stamp of the Kaffir tribes. Weapons, the form of the shields of ox-skin, the clothing, the type of race, are surprisingly like those of South Africa." The Kaffirs seem gradually to have emigrated to South Africa rather than to have approached it as conquerors. The Amatongas, or Knob-nosed Kaffirs, probably occupied the low-lying country between the Zambezi and the Limpopo three centuries ago; other races, as the Matabeles, followed them. The Amaxosas of Kaffraria, tribes which have come into greater prominence during our Cape colonial rule, probably reached the Kei, where there has been so much recent fighting, about 1670. The Bechuanas, among whom Moffat and Livingstone had their mission work, were probably among the last arrivals. It has been supposed by some that the Kaffirs are of Shemitic origin, and there are certain of their usages which seem remarkably to favour the idea: as, for instance, circumcision, the law of marriage and the widow, the distinction of clean and unclean animals; and one of their tribes towards the north, the Makalakas, seems still to hold sacred a seventh day. The structure of the Kaffir language does not, however, support this idea, which is now abandoned. It is probable, at the same time, that in their southern wanderings there may have been added a considerable mixture of Shemitic blood, as Arab rule long prevailed on the east coasts of Africa; and this may in part account for these usages. It is a question of greater difficulty how far the Kaffirs are a Hamitic race. Much mystery still hangs around that great people whose history begins for us at the time of Babel, and culminates in the early splendour of Egyptian civilisation. It was they, too, whose races aided so powerfully the great Shemitic invasions of Europe by Hannibal, and in the middle ages by the Moors. There is every likelihood that the affinity is close of the Kaffir to the Copt and the Berber of North Africa, the ancient Numidian, and to those warlike tribes represented, for instance, still by the Turcos in the French army.

Passing from the origin to the distribution of the Kaffirs in South Africa, to enumerate all these tribes would be beyond our limits, and would scarcely interest our readers. Those who care for the study will find a very complete classification of them in the pages of Dr. Fritsch, an eminent German anatomist and anthropologist.* For the practical purposes of this paper, the following enumeration may be enough. There are the Amaxosa tribes of Kaffirland, the Galekas, Tambookees, Slambies, with the Gaikas. Kreli, with whom we are at war, and with whom originated the present struggle, is the paramount chief of these tribes. There are also the Fingoes, Pondos, and Griquas in the same region. If we go farther north, and pass Natal, we have the warlike Zulus, of Zululand, with Cetywayo, their chief, whose present attitude to our colonial governments gives cause for just alarm. Farther inland, again, on the south, beyond that great range of the Drachenberg, separating Natal from the lofty plateau of the interior, there are the Basutos, of Basutoland, the Switzerland of South Africa, as it has been called, where are established the interesting French Protestant Missions. These are located near the sources of the great Orange river. Farther north than these, on the other side of the Vaal, we have in the Transvaal kindred Basuto tribes, of which Secocoeni, lately at war with the Boers and now with England, may be regarded as the leading chief and representative. If we go still farther west, again, than these, we have on the confines of the Transvaal the Bechuana tribes, whose territories stretch on to the great Kalihari desert. And still west of these, on the other side of the continent, we have the Hereros. If we advance still farther north, beyond the South African colonies and the River Limpopo, but to the south of the Zambezi, we have the Matabeles, Makalakas, Banyai, and the tribes on the east occupying Umzila's kingdom.

And now to notice some of the Kaffir characteristics. Their language, for instance, may deserve a moment's notice. It is of a high character, melodious and soft; its grammar is marked by its regularity, with comparatively few exceptions. The forms of the verb are so varied that its paradigma would almost fill a book. It is a language nearer to the Shemitic than the Indo-Germanic, but it has still marked features of its own. "The development and beauty of the Kaffir languages," says Merensky, "which surprise every one who has really insight into them, have been to many a ground for supposing that these people must have originally stood on a higher platform of culture. We hold this for a false

* We translate from his "Beiträge."

* The races of South Africa is the subject of his work. It is published in German.

conclusion, for when the mental and intellectual culture of a people declines, its language declines all the more that it possesses written records, and on this account the language, as it lives in its tongue, is always the exact expression of its mental and intellectual force. As, then, the development and beauty of the Kaffir tongue is not to be ignored, we believe that we are justified in the conclusion that the mental powers of the Kaffirs are greater than we are usually inclined to admit."

Another characteristic of the Kaffirs is that they are physically of a higher formation than the other South African races. We agree, indeed, with Dr. Fritsch, who has described with great care these tribes physically, that there has been exaggeration in some accounts of them, as if they were Herculeses in strength or Apollos in symmetry. This is quite an exaggeration. The European is generally their superior, both in muscular power and in proportion. Still the Kaffir is a well-built and muscular man, with good features, and were he civilised he might be more nearly on a level with the Europeans. His mental capacities, as we have noticed his language implies, are considerable. He has undoubted sagacity in counsel and ready eloquence in the Pitso, or tribal assembly, where war and tribal questions are settled. He differs also from the other South African races industrially. He is not like the Bushman, a mere hunter of the wild, and a child of the rock or the desert, without a home, without cattle, without knowledge of agriculture, living on roots which he digs out of the ground with his rude stone hammer. Nor is he like the Hottentot, a mere herdsman of cattle. On the contrary, the Kaffir cultivates the soil and he understands so well the growing of Indian corn and millet, and other vegetables, that he has little to learn from the European. It is somewhat curious the division of labour among the Kaffirs. The man is the hunter, and also the herdsman, he tends the cattle and milks the cows, the women not being admitted usually into the cowstall. The woman, on the other hand, with her rude hoe, aided by her children, digs the soil and plants and reaps its fruit. She not only thus, indeed, grows the corn and the vegetables used, but she prepares the food for her husband, and makes the Kaffir beer. The life of woman among the Kaffirs is thus a great drudgery, and she is reduced almost to the rank of a slave. The Kaffir is a polygamist, more so, we may say, than even the Mohammedan, both because he can marry more wives, and especially because he can gain more profit by them. The more wives he can obtain the more land he can cultivate and the more wealthy he can thus become. The wives are purchased by cattle, a degrading usage, which has been a real obstacle in mission progress. Such a life as that of the Kaffir woman sadly crushes and terribly degrades her. The daughter of Africa is, we may almost say, the lost sheep of her sex, far from the fold and the shepherd, and from all that love and gentleness that should encompass her.

There is another difference betwixt the Kaffir and and other South African races. They are far more of a people than the Bushmen or the Hottentots. Their organisation is tribal; their condition is not unlike that of our Scottish clans two centuries ago. All rally round their chieftain, who allots the lands of the tribe, decides with his counsellors judicial cases, and is, besides, supposed to possess supernatural powers. Dr. Wangemann, superintendent of the Berlin Mission, justly says on this subject, "The Hottentot has no feeling for nationality; even with the 350,000 of his people they are in no respect a race; while if but a few hundred Kaffirs live together they feel as Kaffirs. The Hottentot, too, is of a slavish mind, who sees in the white man his master; the Kaffir, on the other hand, looks on the European as an encroacher, whom he fears and hates, whose yoke he would willingly fling to the winds, to whom he can never resolve to submit himself slavishly as his master." We think the latter statement, although true to a certain extent, yet somewhat exaggerated. The Kaffir will certainly never be a slave; hence his hatred of the Boer. His tribal organisation will serve, too, as a rallying-point; so that, if oppressed, he will again and again revolt. But the language is inaccurate as regards the feelings of the Kaffirs towards British rule. It is just as regards, perhaps, many of their brutal chiefs, but not the tribes generally, who have learned to appreciate the rectitude and mildness of our rule. Even as regards the heads of the tribes, we have Moshesh, the great and sagacious Basuto chief, placing himself under British protection. Perhaps a still more decided proof of this native feeling may be gathered from the words of Moselekatze, the rude yet able chief of the Matabeles. "These," he said of the English, "are the masters of the world. When the great men in the white man's country send their traders for the ivory, do you think they give me beautiful things in exchange because they could not take my ivory by force? They could come and take them by force and all my cattle also; and yet look at them, they are humble and quiet and easily pleased. The Englishmen are the friends of Moselekatze, and they are the masters of the world!"* We believe that such impressions of our colonial policy are largely held among the Kaffir tribes, especially among those under our direct rule. It is by cultivating such feelings that our hold on Africa can alone be made secure and honourable, alike to the natives and ourselves.

We shall only add here, as regards the characteristics of the Kaffirs, that it is quite an error to suppose they have no religious ideas. What they possess, indeed, are probably only fragments of purer earlier traditions of Divine truths, but still they indicate a certain feeling after God and of the need of mediation. The Kaffir proper name for Deity signifies the highest existence, dispensing fate, giving life, sending good and bad fortune. But still their deity can scarcely be regarded as having any likeness to the God of Christianity. There seems to be no doctrine of faith in him nor of love towards him. He is destiny alone. In place of him the true objects of worship appear to be the manes of the dead, especially the dead chiefs of the tribes. To them offerings are brought, the priest praying after a certain ritual over the animal slain. There are traces also of human offerings being made, as, for example, the Zulu chief Chaka sacrificed ten of the virgins of the tribe, whom he buried alive at the grave of his mother. This was indeed but a small part of the holocaust offered by that savage chief to the manes of his mother. With the dead it is supposed also intercourse can be held. As in the Greek play of the Persians, Darius, emerging from the tomb, tells of the destinies of Xerxes his son, Chaka held thus that he had con-

* Mackenzie's "Three Years North of the Orange River."

verse with the Induna, or minister of his father, and received inspirations from him. Then the dead were supposed by some of the Kaffir tribes, as the Zulus, to live in serpents; and hence a form of serpent-worship like that of the Gallas in North Africa. But we do not dwell on these religious rites and ceremonies further than to show, what has been sometimes denied, that there is a religious element in the Kaffir nature. Christian Kaffirs, when asked what they thought of God as heathens, have answered, "We never thought, only dreamed of Him." Their religious ideas were vain and fantastical; still it is important to know, if we would understand the Kaffir, that these have been wrought into a compact and powerful religious system. They have their holy places, their holy mountains, holy springs, and their magical waters, by which they purify the tribe or strengthen it for the battle.* One strong form of their superstition is the dread of witches and of witchcraft—a belief of which, it is to be remembered, Christendom has only lately, if now, even, got rid. The chiefs and their Indunas turn this credulity frequently to their own advantage as a means of plundering the rich native, or of getting rid of those they hate. Cetywayo, the Zulu chief, has thus, we have reason to believe, sought to free himself of the Christian Zulus. Kaffirs have, again, their sacred animals, as, for, instance, the crocodile, a relic probably of their old Egyptian or Hamitic worship. We have already noticed how in circumcision and other usages they approach Shemitic forms of worship.

NATURAL HISTORY ANECDOTES.

A PET CORMORANT.

AMONG the many strange pets which we in Shetland delighted to keep, one of the most interesting and amusing was a cormorant, which was brought to us from the nest when quite young, and which we kept for several years. His earliest days were spent on the well-known Flugga Skerry, in the north of Unst, and he became the captive of the most daring and successful fowler in the Shetland Islands, who brought the young "Loring," as the cormorant is called in Unst, to my father by way of a little present. The new arrival was welcomed almost with open arms by the entire family, and was duly taken upon the strength of the establishment, which included at that time a heron, several gulls, a snowy owl, a Richardson's skua, two young guillemots, and a hooded crow.

With so many hungry mouths to fill, the office of chief of the commissariat at that period was no sinecure. The owl preferred rabbits, mice, and such small deer, to any other kind of food; and as he was an invalid, only just recovering from the gunshot wound which had made his capture possible, his little fancies required to be attended to. The gulls were not at all particular, and for the most part foraged for themselves; while the hooded crow throve excellently well upon the abundant spoil which his peculiar talents enabled him to filch from all and sundry of his neighbours. But the guillemots, the heron, the skua, and, as we at first imagined, the newly-acquired cormorant, required a fish diet, and fish in the late summer is not always easy to get, even in the Shetland Islands. The difficulty was to secure a regular supply of freshly-caught fish, for of course none of our cliff-bred friends would accept their food in a "game" state, and salt provisions we knew would be injurious, if not immediately fatal, to their delicate constitutions. But we soon found that Toby, as we named the cormorant, was not at all fastidious regarding his diet. He speedily proved himself to be a gentle receiver of every kind of food—fish, flesh, or fowl—and when all of these were scarce, he even condescended to partake of huge lumps of cold porridge, cheese-curd, bread, potatoes, or in fact anything which came first to hand. He preferred fish, of course, to everything else, but quantity was his motto; quality he concerned himself little about. He had not been with us long when he began to recognise and intercept the convoys of provisions which the children of our fisher neighbours brought to our house for the benefit of our motley crew of pets. Toby was looked upon as an "uncanny" bird, and, moreover, his powerful bill was capable of inflicting grievous damage upon the bare legs of the little urchins whom he attacked. So as a rule Toby had first choice of the fish that came to our establishment, for the children used to throw down their fish-baskets and take to their heels upon his approach. His first essay in a flesh diet was made in bolting a live mouse which a proud young tabby cat had brought home to her first kitten. This experiment was so thoroughly satisfactory that he immediately afterwards attempted to swallow the kitten itself, and was only prevented from accomplishing the dreadful deed by the timely interposition of a common friend. Toby's capacity for food of every kind was indeed almost beyond belief. In the winter following his advent among us fish was very scarce, and Toby had to content himself with what other victuals might be available. On one occasion my brother-in-law, Dr. Saxby, had shot a number of starlings in order to furnish a substantial repast for the snowy owl, and for a cast of young merlins which had been added to our family. When passing through the yard where Toby was anxiously looking out for a meal, I tossed one of the starlings to the hungry bird, hardly expecting him to touch it. But Toby cleverly caught it and bolted it, feathers and all, without a moment's hesitation. Another starling followed, and another, and another; but when five in all had been thus disposed of we called a halt, remembering that there were other members of our family still to be fed. Moreover, the five plump birds, with their heads, legs, bills, and feathers, appeared to have taken the fine edge off even Toby's excellent appetite, for when he hobbled away to his favourite retreat in a coal-shed near, the legs of the fifth and last starling were to be seen projecting from his bill. After that Toby always came in for a share of the contents of our game-bag, and whenever he saw either of us with a gun he came at once expecting to be fed. In Dr. Saxby's ornithological diary I find the following: "To-day I gave the cormorant, for a single meal, two buntings, a twite, a sparrow, two snow buntings, and a ringed plover, and even then he followed me for more."

When Toby had been with us about a year he one day took it into his head to try whether his growing wings would carry him to the not distant sea. Taught by instinct, or by experiment, that he could not rise from the level ground, he managed to climb

* It is said that Kreli's Galekas lately drank sea-water to strengthen them to fight with the British, the rulers of the waves.

to the top of a high stone wall, thereby securing a good start. I well remember the consternation which his departure occasioned, for we all concluded that Toby had left us for good and all, and that, having once reached the sea, he would never think of coming back. But such an act of desertion formed no part of Toby's plan. On the contrary, and as if to reassure our minds, he made his first visit to salt water a very short one, and speedily returned to his accustomed place. He had stayed long enough, however, to provide himself with an ample meal, and having learned how to earn his own living, he thereafter gave us little or no trouble about his food. He went off regularly every morning, sometimes staying only for an hour or two, and at other times remaining on the water all day, the period of his absence being apparently regulated by the abundance or scarcity of fish in the harbour. But he always came home in the evening, and hardly ever failed to report himself in the kitchen, where he liked to get as near the peat fire as he conveniently could. We took measures to guard against his falling a victim to any sportsman's gun during his daily fishing expeditions, and every owner of a fowling-piece far and near in our island was asked to be careful not to shoot at a loring anywhere near the harbour of Baltasound. It was quite unnecessary to do more—if, indeed, anything more could have been done—and "the doctor's loring" became a sacred bird to all our good-natured neighbours. Strangers coming to the place were also warned of the existence of our tame cormorant, and they, too, abstained from shooting any bird of the kind on sea or on land. Thus for Toby's sake the whole of his tribe enjoyed perfect immunity from the fowler's gun within a wide radius around our house, and in this way he may be held to have done good suit and service to his kind in his day and generation.

I grieve to say that poor Toby came to a tragic end—not at the hands of a fowler nor upon the sea, but at the very fireside which he had loved so well. An aged sheep-dog, whose fifteen years of faithful service had earned for him a pensioner's place in our household, had long regarded Toby's appearance in the kitchen with suspicion and dislike. He had been a sporting collie in his best days, and he had about the same amount of respect and regard for a cormorant that a retriever may be supposed to entertain for a partridge. Some slight difference of opinion between bird and dog as to possession of a snug corner by the ingle nook resulted one fatal day in a dire catastrophe. In a moment of senile rage at having his little comforts interfered with by a bird, whose whole race he had been taught to regard as lawful prey, the old dog attacked poor Toby and killed him on the spot before any one could interfere. Most deeply did we all lament the loss of our amiable pet; he had been with us three years, and had just acquired the full plumage of an adult bird. It would have been interesting to have noticed what effect another season would have had upon his very domesticated habits. Doubtless he would have taken unto himself a wife, and then the contrast between life upon some wild skerry, with his dusky bride as his sole companion, and the sociable circle around the kitchen fire would have been a strong one. I do not think he would ever have quite given up his old friends, but still the cares and responsibilities of a wedded life would have deprived us of much of his society. He died before he was called upon to make a choice.

T. EDMONSTON.

WEATHER CHARTS AND STORM WARNINGS.

I.

ALL readers are familiar with the weather charts and "forecasts" which appear every morning in the columns of the "Times" and other public journals, but comparatively few understand the principles on which they are constructed. We propose to give a popular account of them, and to this end shall have to borrow largely from the data supplied by the Meteorological Office, and from the excellent little compendium issued in 1876 by the head of that office, Mr. Robert Scott, under the title, "Weather Charts and Storm Warnings." For the sake of clearness, we venture to repeat some elementary facts with which the least scientific person who talks about the weather should be well acquainted.

We live at the bottom of a great aërial ocean; and just as the pressure of the water of the sea increases in a ratio proportioned to its depth, so the pressure of the air is greatest where it rests upon the earth. As you decrease this depth by ascending towards the higher strata, the pressure becomes less, the air is rarefied as we realise on going up hills and mountains, or in ascents of balloons. Not only so, but there is a constant change in density of the superincumbent mass of air at the surface of the earth itself. How is this change in the volume and density of the air produced? It is certainly not caused by the winds, for it is the variation in the density of the atmosphere that produces the winds.

In conformity with the law by which substances expand by heat and contract by cold, the atmosphere, when heated by the sun's rays, expands, and being lighter ascends, when the colder air from the surrounding parts rushes in to fill the partial vacuum. This process is ever going on with more or less intensity. In that broad region of the earth lying between the outer rims of the northern and southern tropics, and comprising a space of forty-seven degrees of latitude, the sun is always vertical during some portions of the year, and his rays beat down with the greatest intensity.

The equatorial regions of the earth may therefore be considered as the boiler placed under the furnace of the sun, and the extra-tropical regions may be called the condensers. Let us see how this great aërial engine performs its unremitting work.

As the hot air in the tropics ascends, it passes over, in the upper regions, to the areas north and south of these districts, and its place is immediately supplied by an indraught at the surface of the earth to supply the deficiency. This indraught, from its constancy in producing a wind blowing in one direction, gives rise to the phenomena called the trade winds. If the earth were a globe at rest, the trade

winds would blow from due north and due south to the equator; but the earth rotates swiftly from west to east, and as the equatorial regions rotate much more swiftly than the regions nearer to the Poles, owing to their greater bulk, it follows that the air rushing in from these more slowly-rotating portions of the earth cannot all at once partake of the swifter motion, and so it lags behind, and the resistance caused by its inertia gives the easting to the trade winds, causing them to blow constantly from north-east in the northern tropic, and from south-east in the southern.

Owing to its high northern declination in the summer months, the action of the sun's heat upon the arid plains of Asia causes a vast uprising of the air in those regions, and thus the action of the trade winds becomes first lessened, then destroyed, and finally turned into an exactly opposite direction; and hence, during certain seasons of the year, we get the south-west monsoons of the Indian Ocean, which are only interrupted trade winds, that return to their normal north-easterly condition when the sun again takes his journey to the southern hemisphere, thereby causing winter and cold to those overheated Asian plains.

The same cause that gives rise to the trade winds also produces the prevailing westerly and south-westerly winds of northern latitudes. The air, which by the action of the sun's rays in the tropical regions of the earth has become rarefied and expanded, ascends into the higher regions of the atmosphere, and passes over into the colder districts north and south of the equator. This heated air comes from that portion of the earth where the diurnal rotatory motion is more rapid than in any other part, and the air naturally partakes of that motion. Descending afterwards to the surface of the earth in higher latitudes, it travels at a much swifter pace than the air of these regions, and until it has become reduced by resistance to exactly the same speed, it pushes on eastward more rapidly than the stationary atmosphere, and thus produces a westerly or south-westerly wind.

These winds do not blow permanently in one direction, like the trade winds, but there is a very large proportion of days in the year when the wind is from some point of west in the Atlantic Ocean, and consequently over our own islands. It is the disturbance in the atmosphere, producing change in the normal direction of the winds, and accompanied by gales and storms, that we must now examine.

Mr. Scott tells us, in his interesting little book, that "the best idea we can gain, for practical purposes, of the winds which affect us in these islands, is that the air over the Atlantic Ocean, to the north of latitude 40° N., is constantly flowing from west to east, like a gigantic river. If such a river be flowing rapidly, we often see on its surface small waves, each with its own eddies and circulations, which are carried on with the stream. If we could look at the upper surface of the atmosphere, we should see much the same sort of conditions, except that what corresponds to the hollow of the wave in the river would be a patch of defective pressure in the air, while that which corresponds to the crest of the wave would be an area of excessive pressure."

And this brings us to the consideration of the great law of gyration, which is found to be connected with all great changes in the movement of the atmosphere, for it is now an undoubted fact that the motion of the air, both in direction and velocity, is regulated by the distribution of atmospheric pressure at the surface of the earth.

The fact that storm-winds move in circles, rotating, as it were, around a calm centre, was discovered by Professor Dove, of Berlin, more than forty years ago, and has been established to be an almost universal law, by the researches of Piddington, in Calcutta, Sir William Reid, the author of the "Law of Storms," and by many other observers. It is now, however, generally acknowledged that most winds blow in circles, and that what appear to us as straight-line winds are in reality part of a great circle that is often not less than a thousand miles in diameter. An exception may perhaps be made in favour of the trade winds and some others that blow persistently in one direction.

Having seen that the motion of the air is regulated by the distribution of atmospheric pressure at the surface of the earth, and that the alteration of such pressure is originally produced by the action of the sun's rays, we come now to the important question of how we are to discover that such alteration has taken place.

For this purpose we must consult our unfailing friend the barometer, an instrument that has been invented to enable us to measure the weight of the air above us.

At the sea level the average height of the barometer may be taken at a little more than thirty inches (it is never higher than thirty-one). That is to say, a column of mercury a little more than thirty inches in length, placed in a glass tube open at the bottom, and from which all the air has been previously exhausted, will balance the weight of the atmospheric column above.

If water be used instead of mercury, as was formerly the case, the column of water must be from thirty-two to thirty-three feet in height. An ordinary suction pump may be called a water-barometer on a rough scale, as it is owing to the fact that the weight of the atmosphere is balanced by such a column that water will not rise more than thirty-three feet in a common pump.

The difference in the length of a column of mercury required to balance the column of air immediately above it is strikingly shown in making an ascent above the sea level. After ascending eighty-seven feet it will be seen that the barometer has fallen exactly one-tenth of an inch—that is to say, the column of mercury which at the sea level was thirty inches in length is now only twenty-nine and nine-tenth inches long. As you rise higher the mercury falls lower, not exactly in the proportion of one-tenth of an inch for every eighty-seven feet, because the decrease will be less and less as the weight of air diminishes, but that may be taken as an approximate result. The barometer will fall one inch in 888 feet, two inches in 1,806 feet, three inches in 2,759 feet, and so on, until when it has fallen ten inches you will be at a height of 10,618 feet above sea level, which is considerably more than ten times 888 feet required for the first inch.

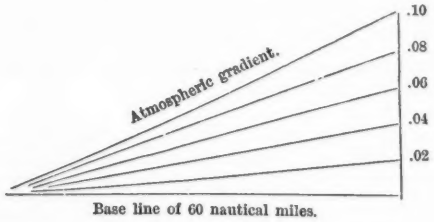
The barometer is therefore very useful for measuring the height of mountains and other elevated points, but it has also a higher use, for in recording the daily and hourly alterations in the weight of the atmosphere at the earth's surface it enables us to foretell, in some measure, and provide for the advent of approaching storms.

It may here be proper to describe, in few words, what is called Buys Ballot's law of atmospheric pressure. Buys Ballot is a celebrated Dutch meteorologist, who discovered that, as an invariable rule, when you stand with your back to the wind the barometer will be lower on your left hand than it is on your right. Thus, if there is a gale blowing from the west and you stand with your back to the west, in those regions to the north, or on your left hand, there will be an area of low barometric pressure, whilst to the south, or on your right hand, the mercury will be rising.

Although this law enables the observer to judge in which direction the wind is moving, it tells us nothing of its probable force, nor whether we may expect a breeze or a hurricane. To judge of its intensity we must examine the steepness of the *gradient*, and this we could not do unless we were able to compare the height of our own barometer with that of our neighbours' at different stations far and near.

Our barometer may stand at thirty inches, or, as it is foolishly called, *set fair*, but the difference of a few tenths of an inch in the barometric column a couple of hundred miles away from us may show that our glass, so far from being *set at fair*, will speedily fall rapidly under the influence of a swiftly-approaching storm, of which we have thus been happily forewarned.

In order to form a standard for atmospheric gradients, the Meteorological Office has adopted the plan of expressing its steepness by hundredths of an inch of mercury for one degree of sixty nautical miles; and as a railway engineer speaks of an incline being one foot in sixty, so the meteorological observer speaks of tenths or hundredths of an inch in every sixty miles.



In the above figure the upright line represents one-tenth of an inch of the barometer; and when there is a difference equal to that amount between two stations sixty miles apart, the gradient will be represented by the least acute of the sloping lines. Smaller deviations will be represented by the more acute angles, or less steep gradients.

These sloping lines, or gradients, are drawn in imagination every morning, between the most important stations given in the weather report, and from their inclination conclusions as to the probable direction and force of the wind are drawn.

Mr. Scott says "that no very precise relation has as yet been established between the amount of the gradient and the force of the wind, if such exists, but as a convenient figure a gradient of ·07 inch per sixty miles indicates the probability of as much wind as an ordinary yachtsman likes to meet with."

It does not appear that any serious gale is ever felt over these islands unless there be an absolute difference of more than half an inch between some two of our stations, and this would give a gradient of more than one-tenth of an inch per sixty miles. On February 1st, 1868, when a tremendous gale was raging over Great Britain, there was a difference of one inch and three-quarters between the heights of the mercury at Aberdeen (28·40) and Rochefort (30·15). The distance between these places is 673 miles, and the barometric difference spread over the entire distance gives a gradient of 0·15 of an inch, being half as much again as the steepest gradient in the above figure.

We have now to consider the two great wind systems so often marked in a series of circular lines upon our weather charts. These are the cyclone and the anti-cyclone. The cyclone is marked by an area of great barometric depression, the central ring of which is the lowest; and each succeeding ring in the chart shows where the depression becomes less and less, until at the circumference there is a widely extended ring of high readings of the barometer. The anti-cyclone is the reverse of this. In the centre there is an area of very high readings, whilst each outlying ring becomes lower and lower, and ends with a very distinct circular rim where the mercury is low.

If the air were a tangible substance, like water, a cyclone would appear like the depression caused by stirring the water in a glass tumbler violently round with a pencil, when a marked depression is seen in the centre and the liquid is sloped up gradually towards the outer rim. An anti-cyclone would show a figure like a broad cone, high in the centre but sloping downwards towards the outer edges. The atmosphere being invisible and intangible, we can only conceive of these figures; nevertheless, it is quite true that in a cyclone the wind sweeps round in a vortex, intensely swift and strong near the centre, and decreasing in power as it reaches towards the circumference; and in an anti-cyclone the wind is still and the air heavy.

In winter an anti-cyclone brings us cold, still weather, with fog and an absence of rain. We had several of these during the past winter, when, with a very high barometer, we had a continuance of dull, foggy, cold weather. In summer they bring still, heavy, and very hot days, sometimes with haze, but often a cloudless sky.

Cyclonic systems are quite the reverse; for in winter they bring us warm, soft, stormy weather, with abundance of moisture and often rain, whilst in summer they cause cloudy weather, rain, and a great reduction in temperature. Another important difference between a cyclone and an anti-cyclone is that the former moves, whilst the latter is comparatively stationary; and as the usual motion of a cyclonic system across these islands is from west to east, we shall have to examine what changes of wind we may expect during the passage of a cyclone, whether it be a violent storm, or only a strong and healthful breeze.

It has long been known that storms sweep over the surface of the earth and sea with a motion quite separate from their own rotatory motion, and they move at very different ratios of speed at various points of their onward career. The force with which the wind blows gives no evidence of the actual speed with which the storm moves onward, for we find that in the West Indies, where hurricanes attain their maximum of wind force, the storm often does not move forward at a rate of more than fifteen or twenty

miles an hour. And yet the wind, in its rotatory motion, may be blowing with a hurricane speed of something like 100 miles per hour.

The pace of the storm appears to increase as it moves onward, often attaining the prodigious speed of fifty miles an hour as it sweeps across the British Isles. Mr. Scott tells us that a cyclone which crossed these islands on February 12, 1868, attained an onward motion of at least fifty miles an hour, whilst one that passed over us December 16, 1869, and another November, 10, 1875, moved at a rate of nearly seventy miles an hour across the country.

In these islands we are mostly subject to storms from the westward or south-west, and in many instances they have arisen in the West Indies, and have subsequently swept across the Atlantic. The usual course for hurricanes in those latitudes is from east-south-east to west-north-west, whilst in the Indian Ocean the Mauritius hurricanes are always from east-north-east to west-south-west; but both classes of storms frequently recurve at a sharp angle, and advance towards the east.

West Indian hurricanes usually set in from the Atlantic, from about 50° to 60° w. long., and 10° to 20° N. lat., whence they travel towards the north-west, passing over some of the islands with destructive fury; after which they sweep past the southernmost point of Florida, and either pass along the coasts of the United States, as far north as New York, or even Newfoundland, before taking their westerly direction across the Atlantic; or they turn at once by a sharp curve from the Gulf of Mexico and proceed towards the north-east over the Atlantic, frequently reaching to and sweeping over the British Islands.

As to the size of cyclones, the researches of Mr. Redfield and Colonel Reid seem to show that West Indian hurricanes are often not more than from fifty to 100 miles in diameter when they first form, but that after reaching the Atlantic they dilate and spread out until occasionally they are 500 or even 1,000 miles in diameter. It would appear also that the smaller diameter is usually accompanied by the greater force of rotatory power, though the storm itself moves comparatively slowly.

Mr. Scott states that one of the greatest difficulties which he finds in the issue of storm warnings is the almost total ignorance under which we necessarily labour as to the rate at which any given storm is travelling, until it has already moved over a considerable tract of country. Nor does it appear possible to remedy this defect, as, owing to our exposed position, Atlantic storms are often able to approach us comparatively unannounced.

Varieties.

HOSPITAL OUT-PATIENTS.—Thirty years ago the out-patient department was insignificant in comparison to what it now is. Dispensaries then did the work that hospitals now undertake in this respect. Not only are there the usual general medical and surgical out-patients, but very commonly new out-patient arrangements are made for those affected by a variety of special diseases. Not only has the augmentation in the number of out-patients become so great as to be a source of demoralisation to the public at large, of loss and injustice to the great mass of general practitioners, of wasteful expenditure and of great embarrassment to hospitals, but the accumulation of these crowds of diseased, often infectious, people in the entrance halls and "out-patient and casualty" rooms of hospitals has become a source of serious unhealthiness to the inmates of these institutions. The out-patient room is commonly situated near one of the entrances into a hospital; and who that has gone into that apartment when crowded with patients, many afflicted alike with dirt and disease, has not been conscious of a heavy and noisome odour tainting the air at its very entry into the hospital, and rendering it, at the very doors of the building, unfitted for contact with the wounded within its walls?—*Mr. Erichsen, F.R.C.S.*

OOROOMIAH LAKE.—A deacon of the Nestorian Church, Khanan Eshoe Abraham, now or recently in this country, suggests to British merchants and capitalists the advantages, both to themselves and to the Nestorians, of attempts to further develop the commerce of Western Asia. In particular, he suggests the establishment of steamers on the large inland Lake Ooroomiah, which is 100 miles long by 30 broad, and is at present only navigated by dangerous and incommodious sailing boats. Several large towns are in the immediate vicinity of the lake, as Tabreez, with a population of 100,000, and Ooroomiah, with 40,000. The present want of communication greatly restricts local commerce. Deacon Abraham further suggests the importance of appointing a British Consul at Tabreez, both for the encouragement of English interests and indirectly as some protection to the Nestorians and Armenians against Koordish persecutions.

OX-TAIL SOUP.—Mr. Gladstone, in his notable lecture on Thrift, referred to ox-tails as having been always thrown away in England till they were turned to account by the *emigrés* from France in the time of the Revolution. Some critic thereupon claimed an earlier date for this addition to English diet, the Huguenot refugees a century before having made use of what they found wasted. The "Daily News," in a humorous article, says that "ox-tail soup may be neither a Catholic nor Protestant soup, after all, but possibly an Anabaptist, Manichæan, or a Mohammedan soup. Oxen must have had tails in many countries, and under many dispensations. The early Oriental, who was accustomed to consume the tails of sheep after ingeniously supporting them on little waggons to prevent damage, might surely have extended his inquiries into the use of tails as an article of diet. If, however, the Huguenot claim be made out, ox-tails may acquire a political and ecclesiastical significance not less than that which made calves' heads notable features of certain Whig banquets. In this sense both ends of the animal might be said to meet (to be *meat*)."

A STRINGENT GAME LAW.—Those who maintain that game laws are the remains of the feudal system will probably be somewhat surprised at the recent game laws passed for one of the States of the greatest Republic in the world. On March the 25th of the present year, according to an American contemporary, the Iowa Legislature passed a game law, which provides amongst its sections that it shall be unlawful for any person within the State to shoot or kill any pinnated grouse or prairie chicken between the 1st day of December and the 1st day of September next following; any woodcock between the 1st day of January and the 10th day of July; any ruffed grouse or pheasant, wild turkey or quail, between the 1st day of January and the 1st day of October; any wild duck or snipe, goose or brant, between the 1st day of May and the 15th day of August; or any wild deer, elk, or fawn between the 1st day of January and the 1st day of September; that it shall be unlawful for any person at any time, or at any place within that State, to shoot or kill for *traffic* any pinnated grouse or prairie chicken, snipe, woodcock, quail, ruffed grouse, or pheasant; or for any one person *to shoot or kill during any one day more than twenty-five of either kind of said named birds;* or for any one person, firm, or corporation to have more than twenty-five of either kind of said named birds in his or their possession at any one time, unless lawfully received for transportation; or to catch or take, or attempt to catch or take, with any trap, snare, or net, any of the birds or animals named in Section 2 of this Act, or in any manner wilfully to destroy the eggs or nests of any of the birds so intended to be protected from destruction. It also makes it unlawful for any person, company, or corporation to buy or sell or have in possession any of the birds or animals named above during the period when the killing of such birds or animals is prohibited, except during the first five days of such prohibited period.